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Congenital Cardiology Solutions

PRENATAL DIAGNOSIS OF CONGENITAL HEART DEFECTS: DOES IT MAKE A DIFFERENCE IN SURVIVAL?

Poster Contributions
Poster Sessions, Expo North
Saturday, March 09, 2013, 3:45 p.m.-4:30 p.m.

Session Title: Congenital Cardiology Solutions: Prenatal Diagnosis, Coronary Anomalies and More
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Background: While prenatal diagnosis of congenital heart defects (CHDs) has been shown to decrease preoperative morbidity, the impact on survival is unclear. We sought to determine the association of prenatal diagnosis of CHDs by echocardiography with 1-year survival in a large, population-based cohort.

Methods: We identified infants with CHDs in the 1994-2005 Atlanta birth cohort ascertained and classified as critical (Figure) or non-critical by the Metropolitan Atlanta Congenital Defects Program. Among infants with isolated CHDs (no extra-cardiac defects and no chromosomal anomalies), we estimated Kaplan-Meier survival probabilities stratified by prenatal vs. postnatal diagnosis and estimated Cox proportional hazard ratios (HRs) adjusted for gestational age and maternal race/ethnicity.

Results: Of 539,519 live births in the study birth cohort, 4,366 infants had CHDs, of which 3,065 were isolated. Among infants with isolated CHDs, 1-year survival was significantly lower for those with prenatal diagnosis (Figure). The adjusted HR comparing those with prenatal vs. postnatal diagnosis was 1.00 (95% CI: 0.14, 7.35) for the non-critical CHD cohort and 2.54 (95% CI: 1.74, 3.70) for the critical CHD cohort.

Conclusion: Prenatal diagnosis is associated with lower 1-year survival for infants with isolated critical CHDs but no change for those with isolated non-critical CHDs. Varying disease severity within critical CHD subtypes for prenatal vs. postnatal diagnosis might explain this association.